REMARKS

Applicants have carefully reviewed this Application in light of the Final Office Action mailed December 20, 2006. Claims 1-21 are pending in this Application. Claims 1-21 stand rejected under 35 U.S.C. § 103. Claims 1-10, 15-19 and 21 have been amended to further define various features of Applicants' invention. Applicants respectfully request reconsideration and favorable action in this case.

Rejections under 35 U.S.C. § 103

Claims 1-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,578,158 issued to William G. Deitz et al. ("*Deitz*") in view of U.S. Patent No. 7,003,687 issued to Naoto Matsunami et al. ("*Matsunami*").

Deitz discloses a memory system of RAID controllers connected by a fibre channel arbitrated loop providing transparent failover and failback for failed controllers. (Col. 3, Lines 4-6). The memory system further includes a communication path adapted to enable each controller to detect failure of the other controller. (Col. 3, Lines 35-38). Operation of the controllers is monitored and when a failure is detected, a failover procedure disables the failed controller and the surviving controller assumes the identity of the failed controller. (Col. 3, Lines 13-16). A computer program uses a loop initialization unit to instruct the surviving controller to assume the identity of the failed controller. (Col. 4, Lines 14-19). The surviving controller then responds to instructions addressed to it and the failed controller. (Col. 4, Lines 14-19).

Matsunami discloses a failover storage system provided with a plurality of input/output devices. (Col 1, Lines 26-28). Each I/O device controller includes means that store a heartbeat mark in shared memory at fixed time intervals and monitor their states by using said heartbeat mark in storing area of shared memory. (Col. 14, Lines 22-29).

Claim 1, as amended, recites a method comprising "in response to detection of a failure event, indicating a location in the information data exchange at which the failure event occurred."

Claim 9, as amended, recites software operable to "retrieve an exchange status indicating a location in the information data exchange at which the failure event occurred."

Claim 15, as amended, recites an information handling system comprising a program of instructions "operable to indicate a location of failure in an information data exchange with a sequential storage device in response to a communication path failure."

Applicants respectfully submit that the cited references fail to disclose every element of Applicant's invention. Further, there is no motivation, teaching, or suggestion to combine *Deitz* and *Matsunami*. *Deitz* and *Matsunami*, alone or in combination, fail to teach at least a failover method comprising "in response to detection of a failure event, indicating a location in the information data exchange at which the failure event occurred," as recited by amended Claim 1. *Deitz* and *Matsunami* also fail to teach software for completing a transaction between a sequential storage device and a host information handling system operable to "retrieve an exchange status indicating a location in the information data exchange at which the failure event occurred," as recited by amended Claim 9. In addition, *Deitz* and *Matsunami* fail to teach an information handling system comprising a program of instructions "operable to indicate a location of failure in an information data exchange with a sequential storage device in response to a communication path failure," as recited by amended Claim 15.

The Examiner argues that the limitations of Applicants' invention are disclosed by *Deitz* and *Matsunami* as follows:

> Second, it is ***not*** true that both Deitz and Matsunami failed to teach "marking a point in the information exchange at which the failure even occurred". Deitz explicitly disclosed the ***capabilities of failure detection via polling and pinging schemes including re-initialization and looping*** [col. 9, lines 40 through col. 10, lines 12]. Deitz further illustrated the unique identifier used for memory data survivability [col. 9, lines 40-52]. Therefore, it is obvious to a person having ordinary skill in the art to realize that Deitz's above capabilities mush have applied such "marking a point..." feature as claimed by applicant in order to performing time-stamp process in supporting the memory fail-over functionality.

(Office Action, Page 4). However, the portions of *Deitz* cited by the Examiner merely disclose the following:

> The computer program 280 includes a failure detection unit 290 adapted to detect a failed controller, and a failover unit 295 adapted to enable a surviving controller to respond to instructions addressed to it and to instructions addressed to the failed controller. The failure detection unit 290 has program code for the polling scheme described above, including responding to the pings, to detect the failure of one of the controllers 105 during normal dual-active operation. ***The failover unit 295 has a disabling***

> ***unit 300 adapted to disable the failed controller, and a loop initialization 310 adapted to instruct a surviving controller to assume the identity of the failed controller and to respond to instructions addressed to it and to the failed controller.***

(Col. 9, Lines 40-52). (emphasis added). Further, *Deitz* discloses:

> ***The signal passed between the controllers 105 to indicate controller failure can be a passive signal, such as for example the lack of a proper response to a polling or pinging scheme in which each controller interrogates the other at regular, frequent intervals to ensure the other controller is operating correctly. Alternatively, the signal can be a dynamic signal transmitted directly from a failed or failing controller 105a, 105b, to the surviving controller 105b, 105a, instructing it to initiate a failover process or mechanism.*** Optionally, the communication path 205 is also adapted to enable the controllers 105 to achieve cache coherency in case of controller failure.

(Col. 6, Line 63 – Col. 7, Line 7). (emphasis added).

As shown by the cited portions above, *Deitz* merely teaches the use of controllers that send signals, for example, polling or pinging signals, where each controller "interrogates the other at regular, frequent intervals to ensure the other controller is operating correctly." (Col. 6, Line 67 – Col. 7, Line 1). Further, when a failed controller is found, a loop initialization "instruct[s] a *surviving controller to assume the identity* of the failed controller and *to respond to instructions* addressed to it and to the failed controller." (Col. 9, Lines 50-52) (emphasis added). Thus, *Deitz*, either alone or in combination with *Matsunami*, does not teach, suggest or disclose the limitation of "in response to detection of a failure event, indicating a location in the information data exchange at which the failure event occurred," as recited by amended Claim 1. (emphasis added).

The Examiner further argues that *Matsunami* discloses Applicants' invention as follows:

> Third, Matsunami's fail-over storage system [abstract, fig.1-6, col. 1, lines 25-30] does clearly teach applicant's limitation. ***Matsunami illustrated means for monitoring the system states and marking a heartbeat in supporting the fail-over process*** [col. 14, lines 7-29]. Matsunami further demonstrated the monitor failure occurrence by using a fail-over control program [col. 7, lines 8-10], ***a predetermined updating time feature used for marking such information in supporting memory failure recover process*** [col. 7, lines 38 through col. 8, lines 7]. Therefore, it would have been obvious to an ordinary skill in the art to realize that Matsunami's monitor

> failure occurrence functionality does perform such data marking in response to memory failure recovery.

(Office Action, Page 4-5). (emphasis added). However, the cited portions of *Matsunami* merely disclose the following:

> When CHN 1102 is powered, its center controller 11001 starts up fail-over control program 110047 (step 4800). ***Center controller 11001 monitors failure occurrence in the target channel adapter in the same fail-over group by checking the heartbeat mark of the target channel adapter*** (CHN 1101 in this case). ***A "monitoring target channel adapter" means another channel adapter assigned to a first channel adapter to be monitored by that channel adapter.*** Such a ***monitoring target channel adapter is registered in fail-over management information 1311 stored in shared memory 13.*** Each target channel adapter is set at the factory when the product is delivered or it is set freely by the user through a software program pre-installed in the product.
>
> ***Where the heartbeat mark of such a target channel adapter of monitoring is not updated, even at the predetermined updating time, or when it is confirmed that a failure occurrence code is described in the heartbeat mark, center controller 11001 decides that a failure has occurred in the target channel adapter*** (steps 4801 and 4802). When no failure is detected, center controller 11001 sleeps for a predetermined time (steps 4802 and 4803), then repeats processing in steps 4801 to 4803.

(Col. 7, Line 53 – Col. 8, Line 7). *Matsunami* also teaches that the heartbeat mark includes data such as "NAS channel adapter identifier, normal code, and updating time." (Col. 6, Lines 3-6). Finally, *Matsunami* discloses that, when a failure is detected, updating of the heartbeat mark is stopped. (Col. 7, Lines 28-32). *Matsunami*, therefore, does not teach, expressly or inherently, the limitation of "in response to detection of a failure event, indicating a location in the information data exchange at which the failure event occurred," as recited by amended Claim 1. (emphasis added).

Applicants submit that for reasons analogous to those set forth above with respect to Claim 1, *Deitz* and *Matsunami* do not disclose, teach or suggest at least the features recited in amended Claims 9 and 15. For at least these reasons, the proposed combination of *Deitz* and *Matsunami* cannot render amended Claim 9 and 15 obvious.

Given that Claims 2-8 depend form Claim 1, Claims 10-14 depend from Claim 9, and Claims 16-21 depend from Claim 15, Applicants respectfully submit that Claims 2-8, 10-14, and 16-21 are allowable. As such Applicants respectfully request that the Examiner withdraw the rejections and allow Claims 1-21.

CONCLUSION

Applicants appreciate the Examiner's careful review of the application. Applicants have now made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. For the foregoing reasons, Applicants respectfully request reconsideration of the rejections and full allowance of Claims 1-21, as amended.

Applicants believe there are no fees due at this time, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 02-0383 of Baker Botts L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2581.

Respectfully submitted,
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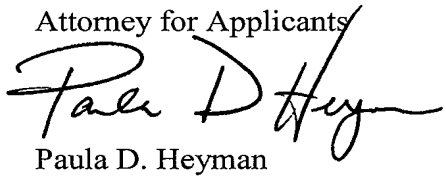

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